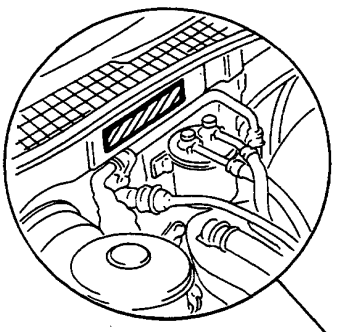
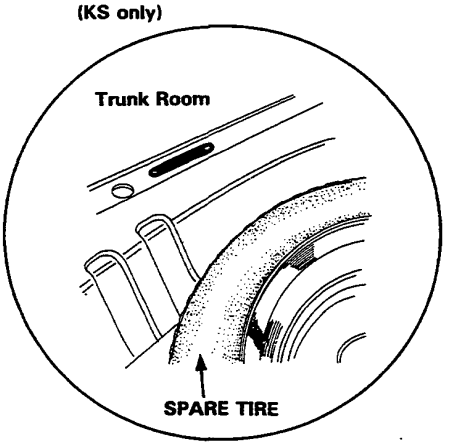
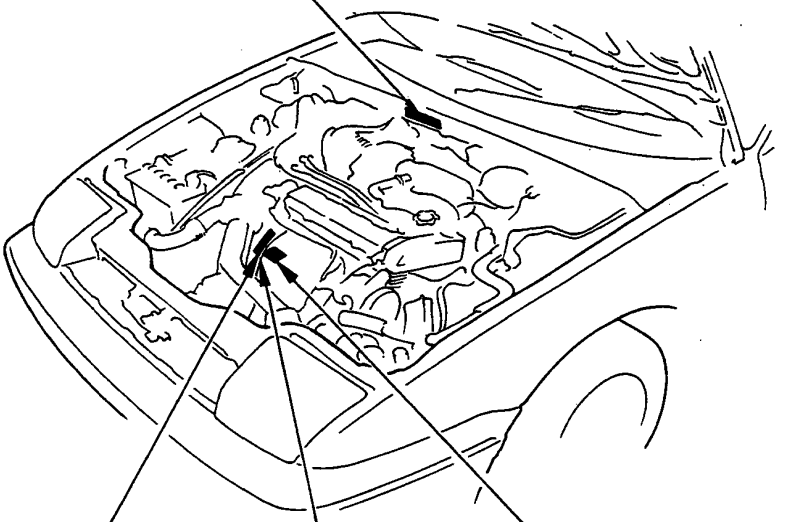
Identification Number Locations

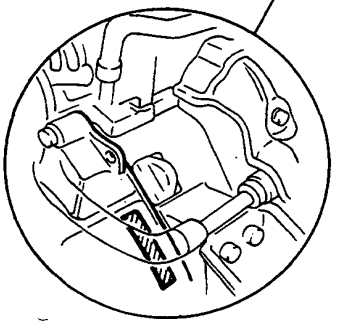


Vehicle Identification Number

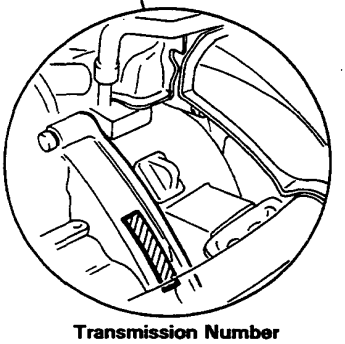
Vehicle Identification Numbers
(KS only)



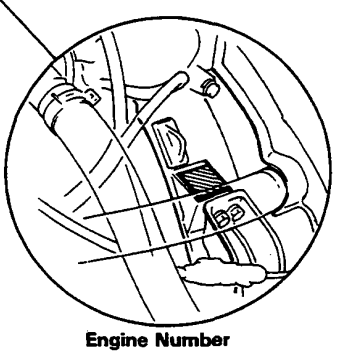




Transmission Number
(Manual)



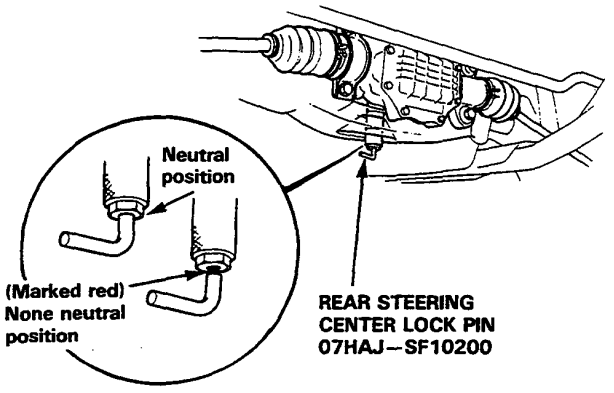
Transmission Number
(Automatic)



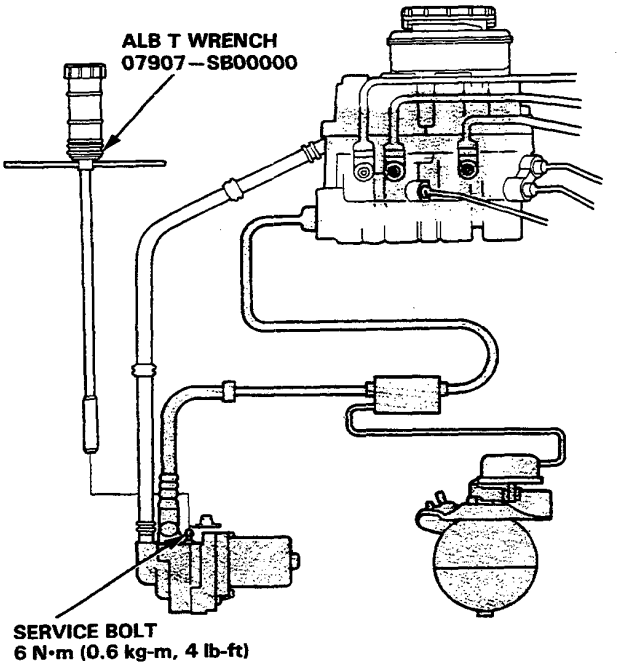
Engine Number

Special Caution Items For This Car

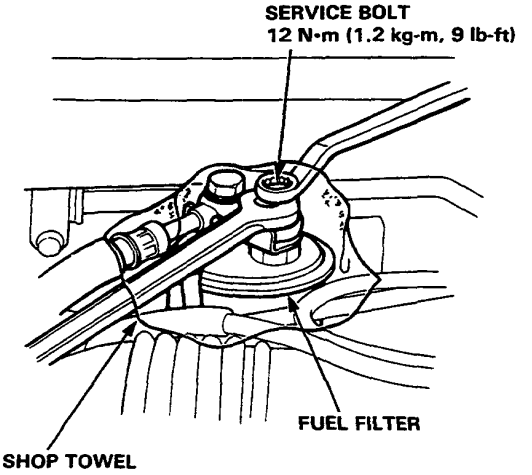
1. 4WS system servicing (with 4WS)
   - Do not disassemble the rear steering gear box.
   - When towing the car even with the front wheels off the ground, center the steering and tie the steering wheel in place.
   - When testing or adjusting the wheel alignment, attach the rear steering center lock pin to the rear steering gear box. Make sure that the rear steering gear box is located at the neutral position.



2. ALB piping system servicing
   - Disassemble the ALB piping system after relieve the high-pressured brake fluid.
   - Otherwise, the high-pressured brake fluid will burst out and it is very dangerous.
   - See section 13 how to relieve the high-pressured brake fluid.



3. Fuel Line Servicing
   - Relieve fuel pressure by loosening the service bolt provided on the top of the fuel filter before disconnecting a fuel hose or a fuel pipe.

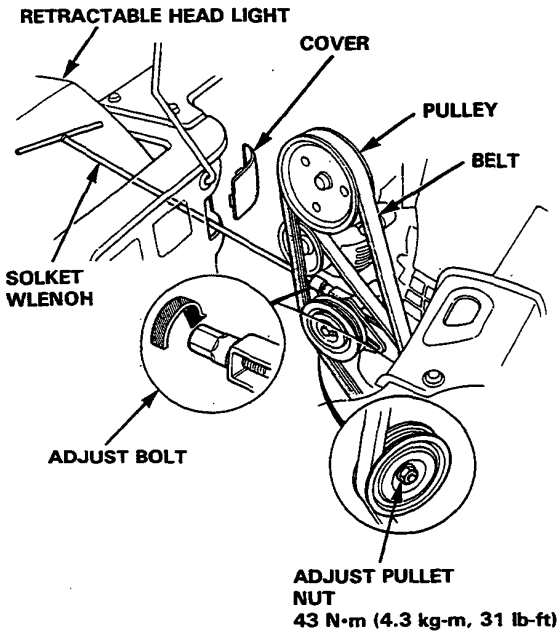


P/S Pump Belt Adjustment

1. Apply a force of 98 N (10 kg, 22 lb) and measure the deflection, between the P/S pump pulley and the crankshaft pulley.

   Deflection: 11—13 mm (0.43—0.51 in.).

   NOTE: On a brand-new belt, the deflection should be 9—11 mm (0.35—0.43 in.) when first measured.



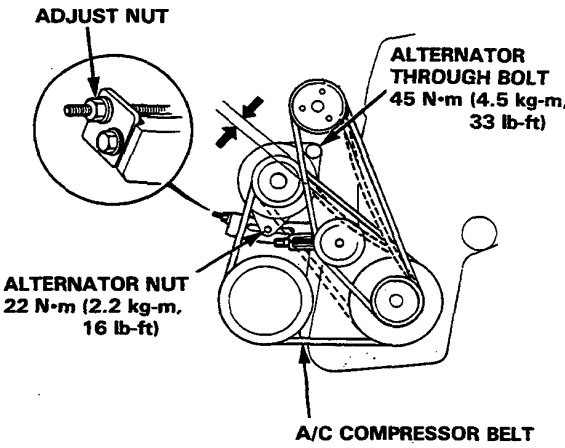
2. Remove the P/S reservoir tank and the cover.
3. Raise up the retractable headlight.
4. Loosen the P/S adjust pulley bolt.
5. Turn the adjust nut to get the proper belt tension, then retighten the bolt and nut.
6. Recheck the deflection of the belt.
7. Install the cover and P/S reservoir tank.

A/C Compressor Belt Adjustment

1. Apply a force of 98 N (10 kg, 22 lb) and measure the deflection, between the A/C compressor adjusting pulley and the crankshaft pulley.

   Deflection: 10—12 mm (0.39—0.47 in.)

   NOTE: On a brand-new belt, the deflection should be 6—8 mm (0.24—0.31 in.) when first measured.



2. Loosen the alternator nut and through bolt.
3. Move the alternator by turning the adjust nut to get the proper belt tension, then retighten the bolt and nut.
4. Recheck the deflection of the belt.

Idle Control System (A/C only)

Testing

1. Start the engine and warm up to normal operating temperature (the cooling fan comes on).
2. Check the idle speed with headlights, heater blower, rear window defogger, cooling fan and air conditioner off.

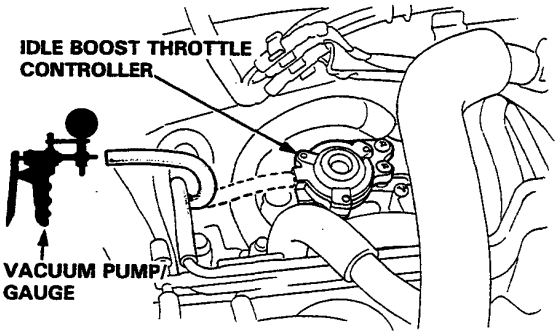
Idle speed should be:

Manual	800 ±50 min^{-1} (rpm)
Automatic	750 ±50 min^{-1} (rpm) (except "N" or "P")

- If OK, go to step 4.
- If not, go to step 3.

3. Disconnect the vacuum hose from the idle boost throttle controller and check the vacuum.

There should be no vacuum.



- If there is no vacuum, check the throttle valve shaft for binding or sticking and replace the idle boost throttle controller.
- If there is vacuum, go to troubleshooting (page 6-23).

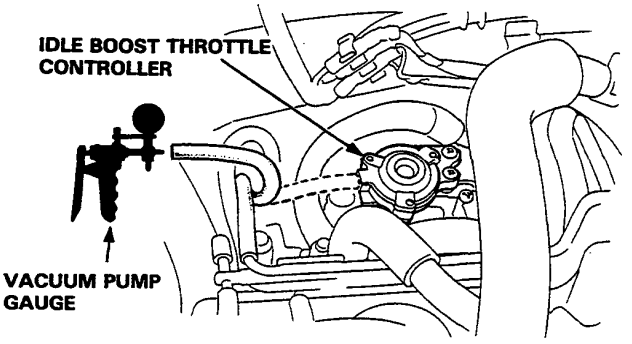
4. Check the idle speed with the A/C on.

Idle speed should be:

Manual	800 ±50 min^{-1} (rpm)
Automatic	750 ±50 min^{-1} (rpm) (except "N" or "P")

- If not, disconnect the vacuum hose from the idle boost throttle controller and check the vacuum.

There should be vacuum.



— If there is vacuum, check the throttle valve shaft for binding or sticking and replace the idle boost throttle controller.

— If there is no vacuum, go to troubleshooting (page 6-23).

Troubleshooting Flow Chart —— MAP Sensor

③ Self-diagnosis LED indicator blinks three times: Most likely an electrical problem in the Manifold Absolute Pressure (MAP) Sensor system.

⑤ Self-diagnosis LED indicator blinks five times: Most likely a mechanical problem (broken hose) in the Manifold Absolute Pressure (MAP) Sensor system.

③

—Engine is warm and running.
—LED indicates CODE 3.

Turn the ignition switch OFF.

Remove EFI,ECU fuse in the under-hood relay box for 10 seconds to reset control unit.

Start the engine and allow to idle.

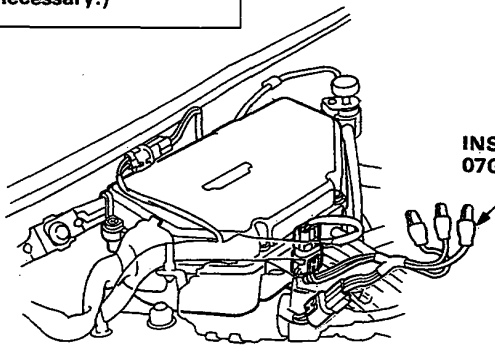
Does LED indicate CODE 3 ?

NO → **Intermittent failure (test drive may be necessary.)**

YES

Turn the ignition switch OFF.

Connect the inspection adaptor between the MAP sensor and wire harness.



INSPECTION ADAPTOR 07GMJ-ML80100

Turn the ignition switch ON.

Measure voltage between RED (+) terminal and GRN (–) terminal.

Is there approx. 5V ?

NO → Measure voltage between RED (+) terminal and body ground.

Is there approx. 5V ?

YES → **Repair open in GRN/WHT wire between control unit (A16) and MAP sensor.**

NO → Turn the ignition switch OFF.

(To page 6-98)

YES

Measure voltage between WHT (+) terminal and GRN (–) terminal.

(To page 6-98)

(cont'd)

Troubleshooting Flow Chart —— IMA Sensor

Self-diagnosis LED indicator blinks eleven times: Most likely a problem in the IMA Sensor circuit.

—PGM-FI warning light is on.
—LED indicates CODE 11

Turn the ignition switch OFF.

Remove CLOCK fuse in the under-hood relay box for 10 seconds to reset ECU.

Turn the ignition switch ON.

Is PGM-FI warning light on ?
Does LED indicate CODE 11 ?

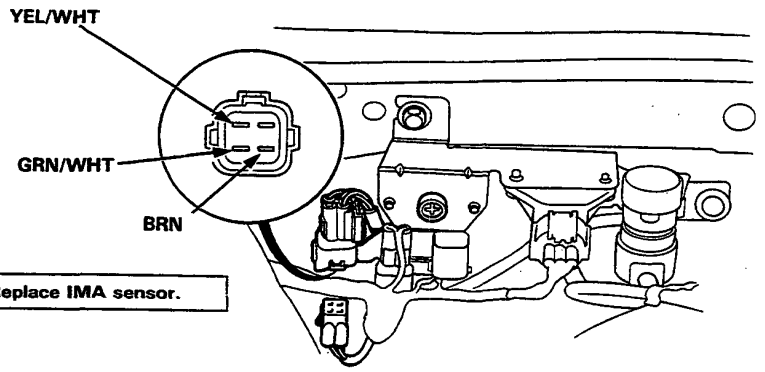
NO → **Intermittent failure (test drive may be necessary).**

YES

Turn the ignition switch OFF.

Disconnect the 4P connector from the IMA sensor.

Measure resistance between YEL/WHT terminal and GRN/WHT terminal on IMA sensor harness.



Is there 4—6 kΩ ?

NO → **Replace IMA sensor.**

YES

Measure resistance between YEL/WHT and BRN terminals and between GRN/WHT and BRN terminals.

Does the sum of the two resistance checks equal 4—6 kΩ ?

NO → **Replace IMA sensor.**

YES

(To page 6-165)

Exhaust Gas Recirculation System [KX, KS, KZ]

Troubleshooting Flow Chart — EGR System (cont'd)

(From page 6-211)

Turn the ignition switch ON.

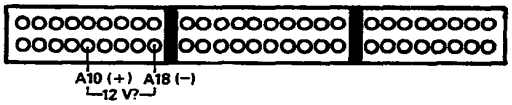
Measure voltage between C8 (+) terminal and C12 (–) terminal.

Is there approx. 1V ?

NO → **Repair open in YEL wire between ECU (C8) and the sensor.**

YES

Disconnect "A" connector from the ECU only, not the wire harness.



Measure voltage between A10 (+) terminal and A18 (–) terminal.

Is there battery voltage ?

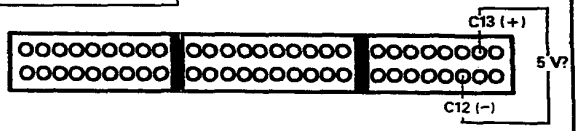
NO → **Repair open in RED wire between ECU (A10) and EGR control solenoid valve.**

YES

Substitute a known-good ECU and recheck. If symptom/ indication goes away, replace the original ECU.

(From page 6-211)

Measure voltage between C13 (+) terminal and C12 (–) terminal.



Is there approx. 5 V ?

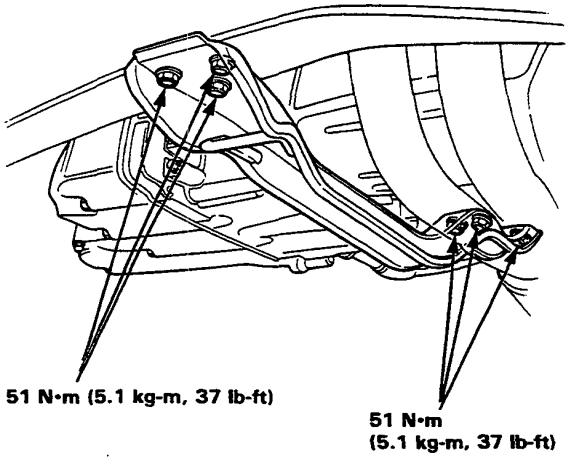
YES → **Repair open in WHT/ YEL wire between ECU (C13) and the sensor.**

NO

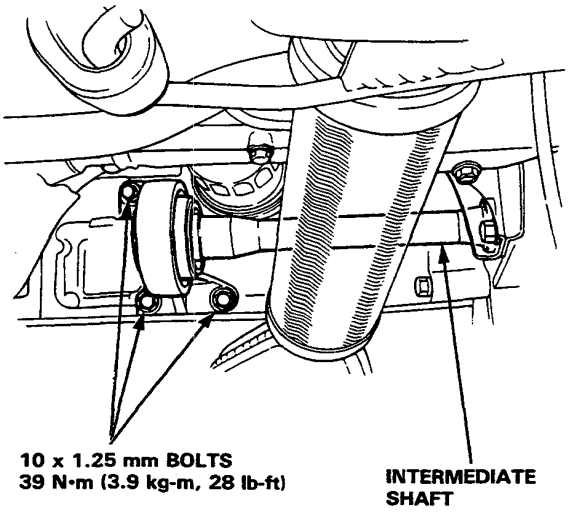
Substitute a known-good ECU and recheck. If prescribed voltage is now available, replace the original ECU.

Removal (cont'd)

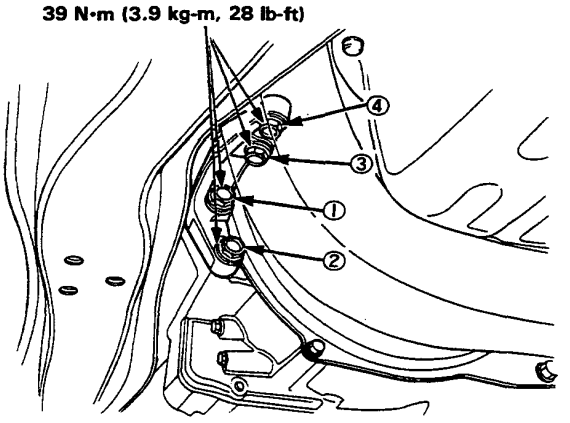
11. Remove the undercarriage splash shield.
12. Drain transmission oil.
13. Remove the center beam.



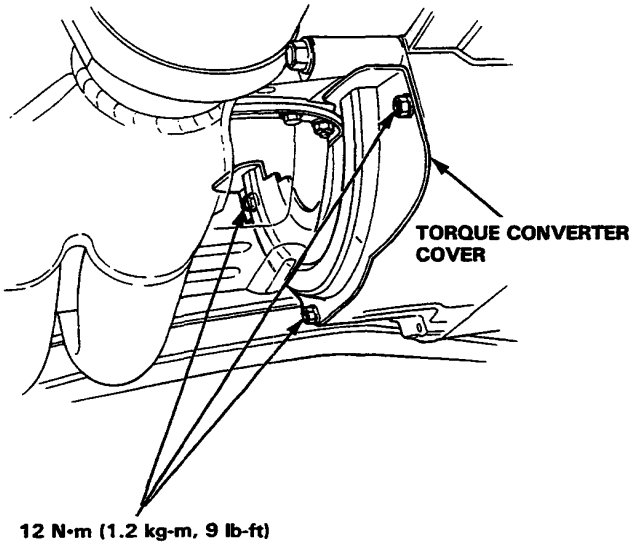
14. Remove the right radius rod completely.
15. Remove the right and left drive shafts.
16. Remove the left half shaft.



17. Remove the engine stiffener.

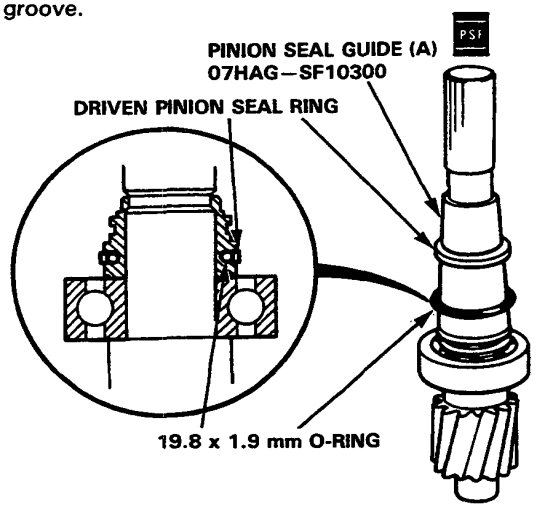


18. Remove the torque converter cover.



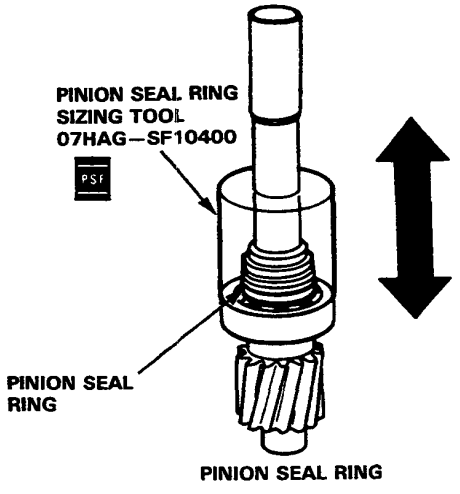
Overhaul (4WS) (cont'd)

86. Coat the surface of the special tool with power steering fluid, and slide the 19.8 x 1.9 mm O-ring and driven seal ring over the guide and into the groove.



87. Coat the surface of the driven pinion seal ring with power steering fluid.

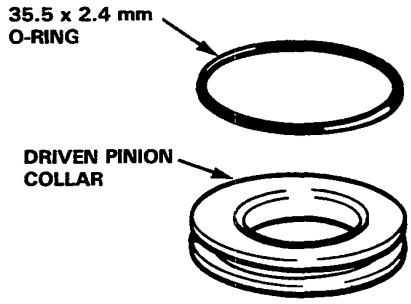
88. Coat the sliding surface of the special tool with power steering fluid, and place the tool over the pinion seal ring.



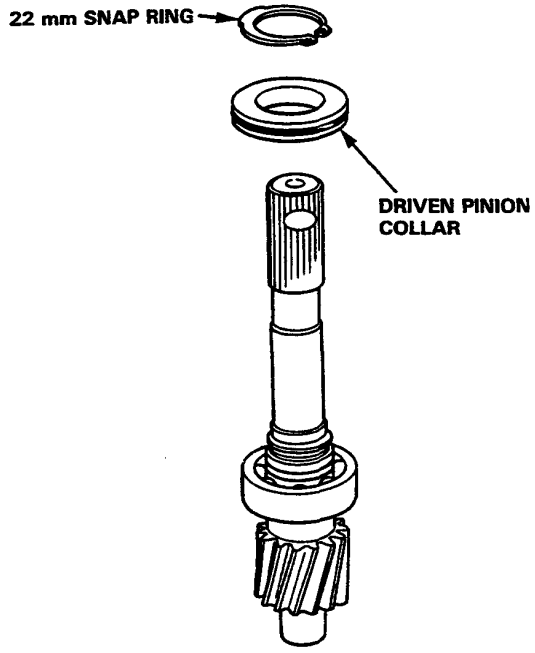
89. Move the sizing tool up and down to seat the driven pinion seal ring.

NOTE: Keep the driven pinion seal ring in the non-tapered part of the tool.

90. Install the 35.5 x 2.4 mm O-ring on the driven pinion collar.



- Coat the surface of the driven pinion seal ring with power steering fluid.

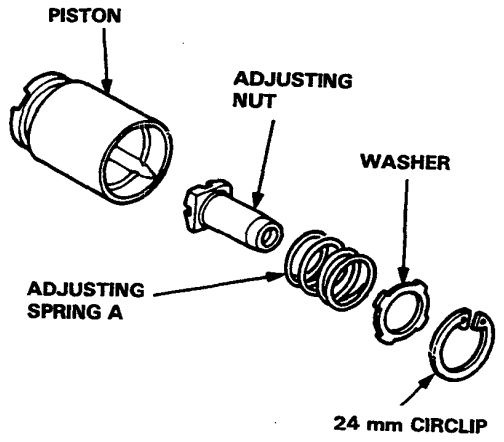


91. Install the driven pinion collar on the driven pinion seal ring, and install the 22 mm snap ring.

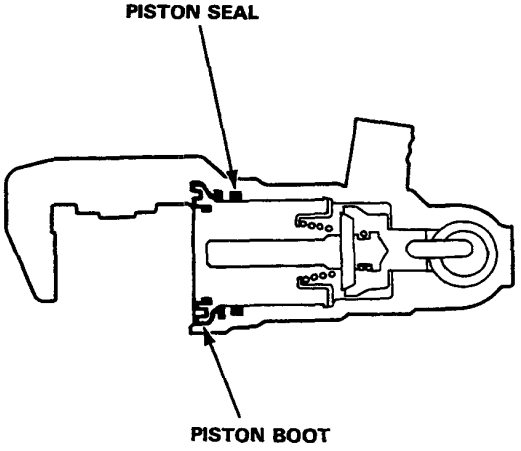
92. Check that the driven pinion collar moves freely.

Reassembly (cont'd)

16. Install the adjusting nut, adjusting spring A, and washer, and secure with the circlip.

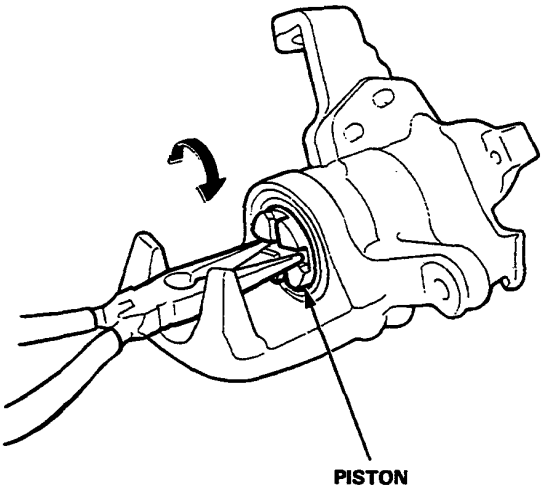


17. Coat the new piston seal and piston boot with silicone grease and install them in the caliper.



18. Coat the outside of the piston with silicone grease, and install it on the adjusting bolt while rotating it clockwise.

CAUTION: Avoid damaging the piston boot.



19. Install the brake pad retainers and brake pads.

20. Install the pad springs on the caliper.

21. Install the caliper on the caliper bracket and tighten the caliper mounting bolts.

22. Connect the brake hose to the caliper with new sealing washers and tighten the banjo bolt.

23. Connect the parking brake cable to the arm on the caliper.

24. Fill the brake reservoir up and bleed the brake system (page 13-11).

25. Operate the brake pedal several times, then adjust the parking brake lever.

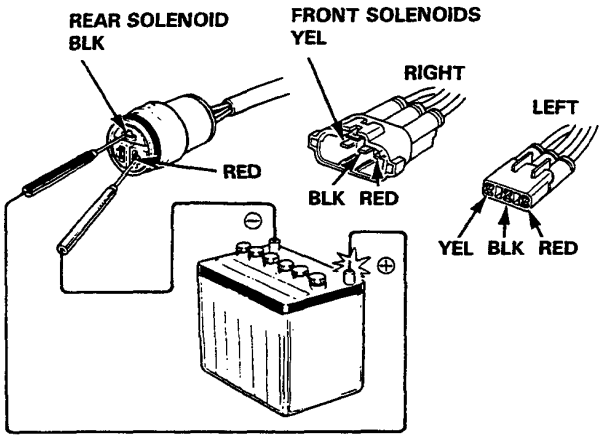
    NOTE: Before adjustments, make sure the parking brake arm on the caliper touches the pin.

26. Install the caliper shield and tighten the bolts.

Solenoid

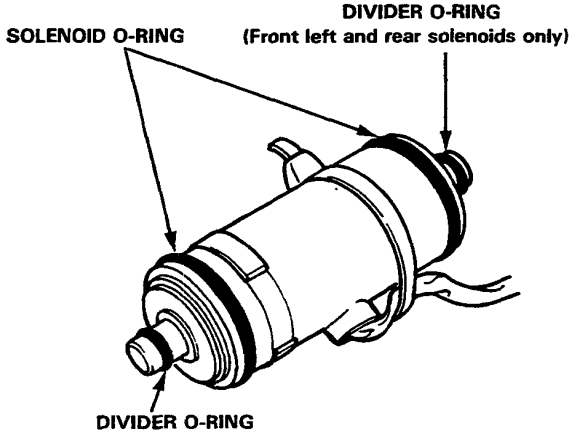
Leak Test (cont'd)

4. Apply a 12 V across the BLK and RED terminals of the solenoid coupler (pink) momentarily.



- Make sure that the solenoid clicks into position and does not hiss or squeak after it has clicked into position. Replace with a new one if it hisses or squeaks.
- Check the pressure switch for continuity within one minute. It is normal if there is continuity. If there is no continuity, solenoid is faulty and must be replaced.

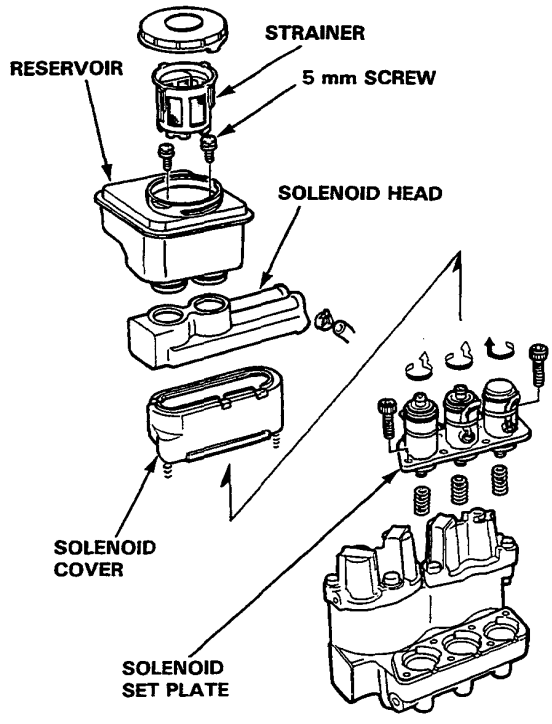
  NOTE: If faulty, the solenoid must be replaced as a unit untess only the O-ring is faulty.

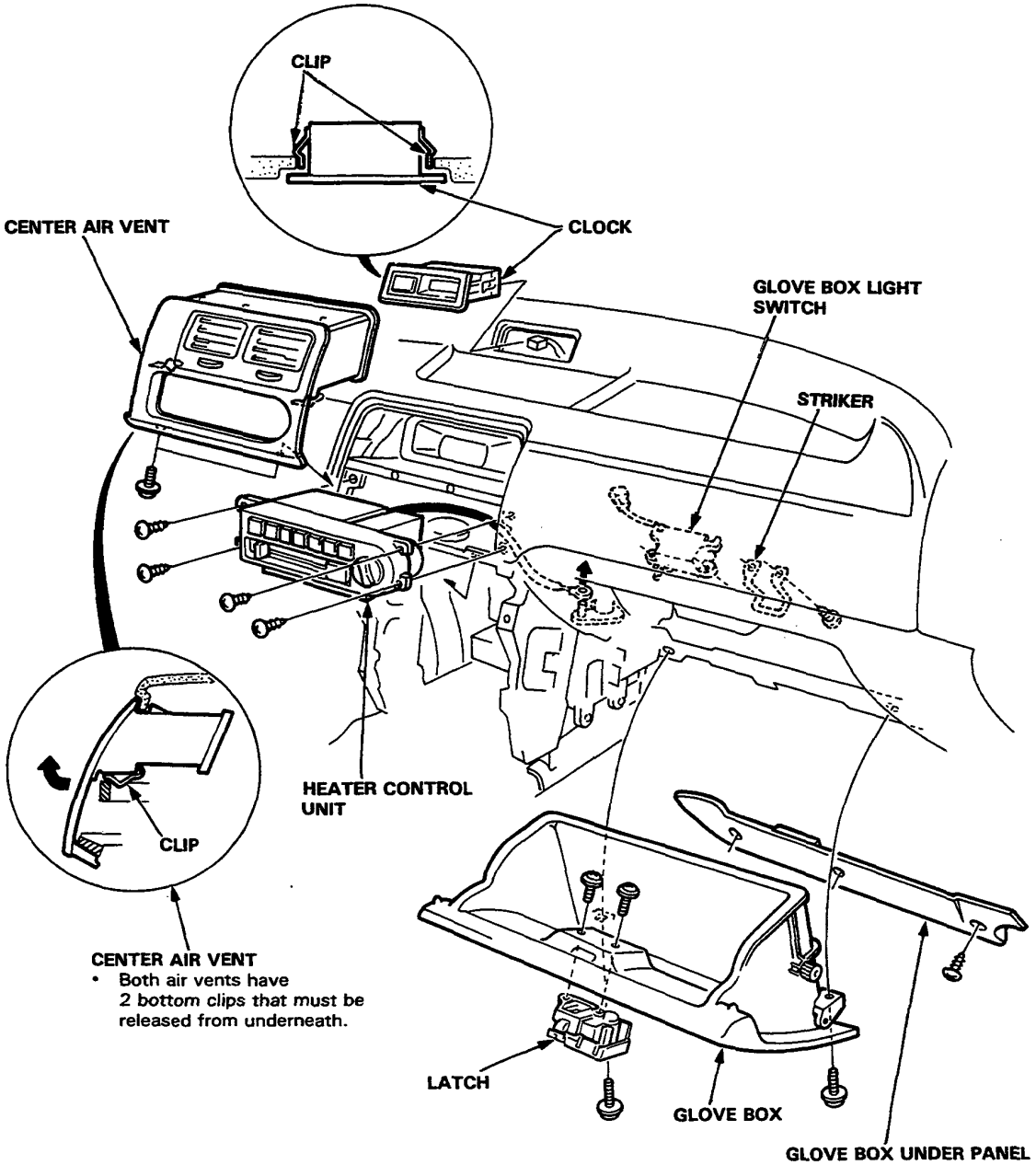


Removal

1. Drain the brake fluid from the modulator tank.
2. Drain the high pressure brake hose (page 13-67).
3. Disconnect the inlet hose.
4. Remove the reservoir strainer.
5. Remove the 5 mm screws and remove the reservoir.
6. Screw the 6 mm bolt into the threaded hole in the center of the solenoid head, reaise the solenoid head parallel to the ground and remove it.
7. Remove the solenoid cover.
8. Remove the hexagonal socket screws and loosen the solenoid set plate.
9. Turn the solenoid valves several times until they move freely and turn the solenoid valves 1/2 turn to align their projection with the cutout in the set plate.
   Remove the solenoid valves together with the set plate.

   CAUTION: The solenoid valves are delicate parts. Be careful not to drop them.



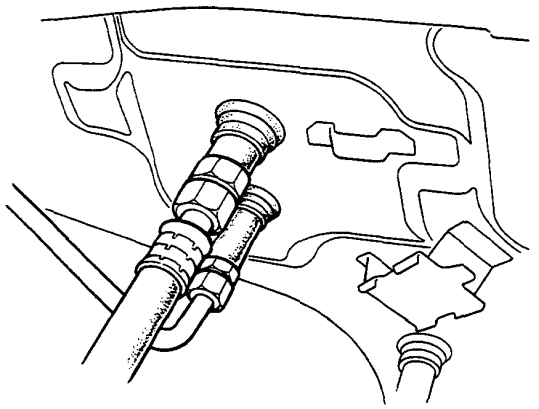

CLIP
CENTER AIR VENT
CLOCK
GLOVE BOX LIGHT SWITCH
STRIKER
HEATER CONTROL UNIT
CLIP
CENTER AIR VENT
• Both air vents have 2 bottom clips that must be released from underneath.
LATCH
GLOVE BOX
GLOVE BOX UNDER PANEL

Evaporator

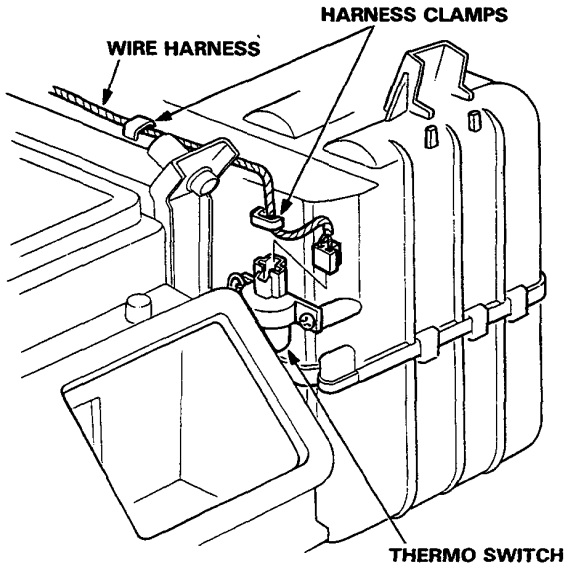
Replacement

1. Disconnect the battery negative terminal.
2. Discharge the refrigerant (page 15-40).
3. Disconnect the receiver line and suction hose from the evaporator.

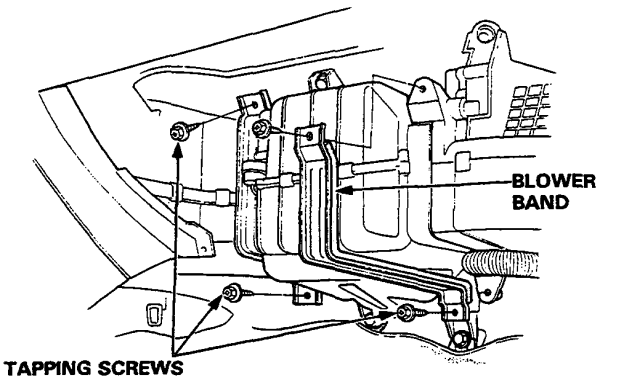
   CAUTION: Cap the open fittings immediately to keep moisture out of the system.



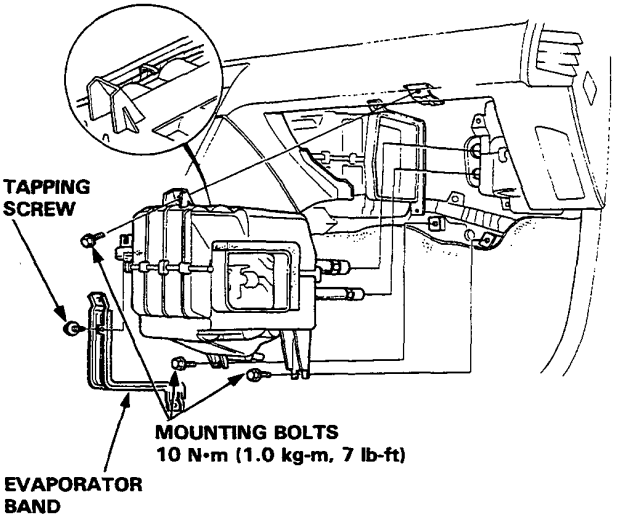
4. Remove the glove box (section 14).
5. Disconnect the connector from the thermoswitch and pull off the wire harness from the clamps.



6. Remove the tapping screws (4) and blower band.



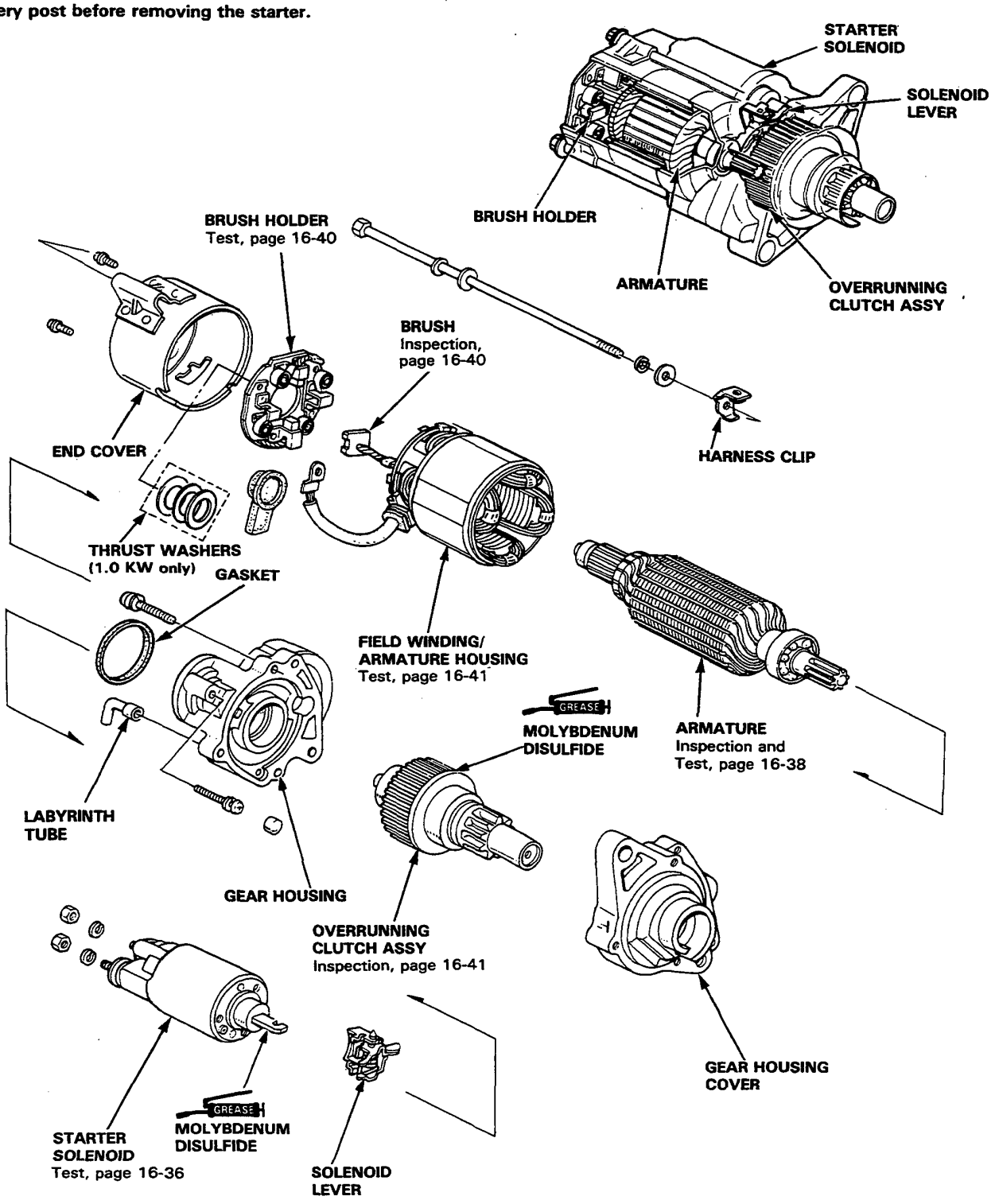
7. Remove the mounting bolts (4) and evaporator.
8. Remove the tapping screw and evaporator band if necessary.



9. Install in the reverse order of removal, and:
   - Apply a sealant to the grommets.
   - Make sure that there is no air leakage.
   - Charge the system (page 15-54) and test performance (page 15-57).

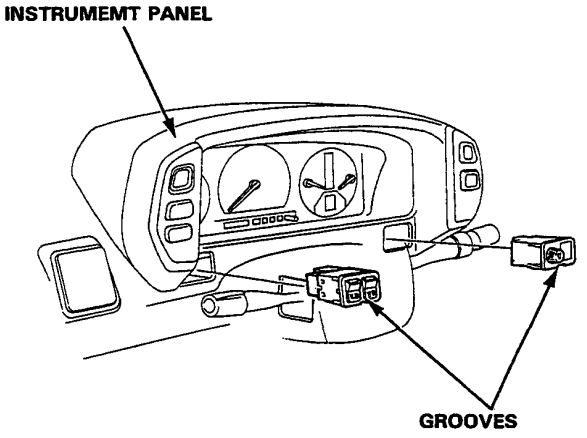
Starter Overhaul (1.0 KW and 1.4 KW)

CAUTION: Disconnect the ground wire from the battery post before removing the starter.

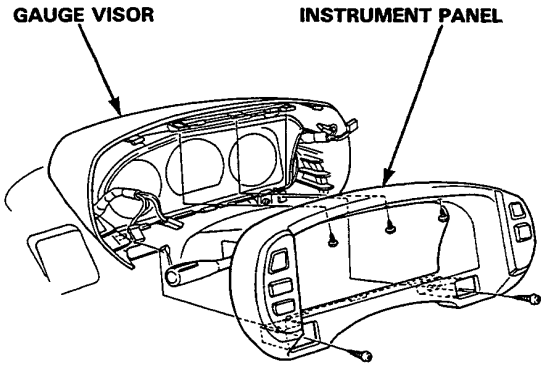


Removal

1. Remove the switches from the instrument panel.

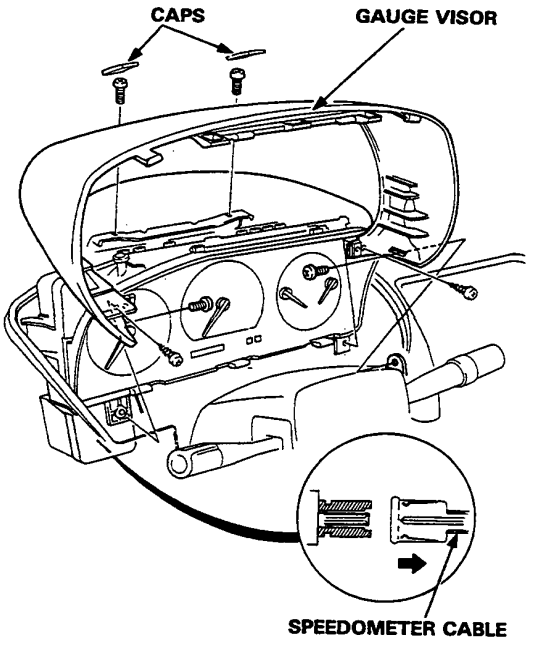


2. Remove the 5 screws, then remove the instrument panel from the gauge visor.

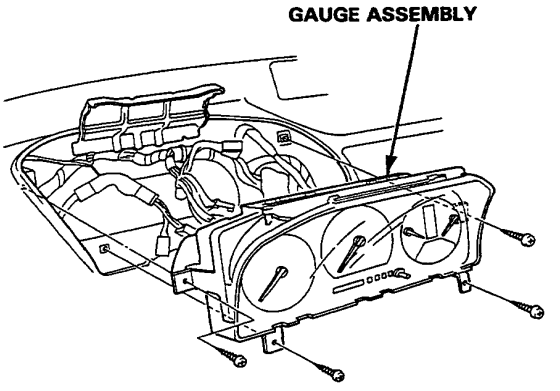


3. Remove the cap and 6 screws, then remove the gauge visor from the dashboard.

4. Remove the dashboad lower panel, then disconnect the speedometer cable from the gauge assembly.



5. Remove the 4 screws, then pull out the gauge assembly from the dashboard.



NOTE: Be carefull not to pinch the wires when installing the gauge assembly.